

REMARKS/ARGUMENTS

The Examiner is thanked for the review of the application.

Claims 1, 3-14, 16-25 remain in this application. Claims 3, 16, 22 have been amended. No new matter has been added. Dependent Claims 26, 27 have been added.

In the Office Action dated March 17, 2006, the Examiner has rejected Claims 1, 3-14, 16-25, under 35 U.S.C. 103 as being unpatentable over Ouimet et al. (6094641) in view of Hartman et al. (5987425) and either Delurgio et al. (6553352) or Smith ("A General Bayesian Linear Model" (4/72), and Vanderbei and Joslin et al. (6272483).

With regard to Claims 1, 14, 21-24, the Examiner has stated "Ouimet et al. (See abstract, Figs. 1-6, Col. 2, lines 55-65, Col. 4, lines 35-60, claims 1, 12 and 21) disclose a means for optimizing the price of an item based on a selected demand model employing a grid (See Fig. 6) to set price in an automated fashion in a digital computer substantially as claimed. The differences between the above and the claimed invention is the use of a specific model and product subsets." Applicants respectfully traverse the rejection.

In Ouimet '641, the method appears to incorporate "**psychological factors**" into a demand model for pricing (column 1, lines 54-56) (emphasis added). This method appears to be primarily concerned with modifying an existing demand model to "incorporate the psychological effects associated with perceived prices" (column 5, lines 14-25). The disclosed method employs "a grid (See Fig. 6)", as the Examiner suggests, developing a "perceived pricing model" for computing the psychological effects by "decompos[ing]" prices and applying "perceived pricing" to the decomposed portions (column 6, lines 37-67, column 7, lines 1-25). The modification of a demand model to include psychological effects appears to be a tuning process. Thus, Ouimet by itself appears to be substantially unrelated to what is being claimed in the present invention. Furthermore, it appears that neither rule relaxation, optimization of subsets, nor specific demand models are addressed by Ouimet (column 1, lines 54-67).

Accordingly, the “optimizing the price of an item based on a selected demand model employing a grid (See Fig. 6) to set price in an automated fashion in a digital computer” of Ouimet, as referred to by the Examiner, appears to provide a “**tuning process** [for modifying] the original demand model . . . to incorporate the psychological effects”, see column 5 lines 12-18, rather than optimizing prices as in the Applicants’ invention (emphasis added). As such, the method disclosed in Ouimet appears to not function as a method of “computing a preferred set of prices for a subset of a plurality of products . . . [including] a demand model based on Bayesian modeling and rule relaxation” as recited in Claims 1, 14, 21-24.

Additionally, regarding Claims 1, 14, 21-24, the Examiner has stated “Hartman et al. (See abstract, and Fig. 1) show product subsets that is the functional equivalent of the claimed limitations.” Applicants respectfully traverse the rejection.

In Hartman ‘425, the method described is for determining pricing margins based on “customers’ sensitivity to retail prices” (column 2, lines 64-66). This method appears to require the users to manually review their entire inventories and **manually “assign”** products to pools by what they “**feel** as to the degree of the consumers’ sensitivity to retail prices” (column 2, lines 60-63) (emphasis added).

Accordingly, the manual assigning of Hartman appears to provide a system of manual product grouping by intuition, and human guesswork, rather than the computerized, algorithm-based designation of a subset of products. As such, the method disclosed in Hartman cannot function as a method of computerized “designating a subset of products of the plurality of products . . . by solving an integer problem, and wherein the computer readable code for designating the subset of products includes computer readable code for allowing a number N to be designated and computer readable code for selecting no more than N products of the plurality of products to form the subset of products” as recited in Claims 1, 14, 21-24.

Moreover, regarding Claims 1, 14, 21-24, the Examiner has stated “Joslin et al. (See abstract, Figs. 1-3, Col. 5, lines 15-25, Col. 6, lines 35-45, Col. 11, lines 5-45) show optimal linear programming solutions of the pricing problem employing subsets and relaxation.” Applicants respectfully traverse the rejection.

In Joslin '483, the method appears to provide a system for rapid resource allocation utilizing linear programming relaxation of sub-problems (column 5, lines 9-22). The linear programming relaxation provides for optimization of "sub-problem" solutions that are possible (column 5, lines 9-16). Joslin's method does not appear to suggest the ability to relax constraints to allow for a feasible solution as recited in Claims 1, 14, 21-24, but instead suggests relaxing constraints in optimization (column 5, lines 16-22).

Additionally, the "subproblems" in the method disclosed in Joslin appear to be designed to overcome computational resource limitations of "passing large problems [through] an LP/IP engine" (column 3, lines 19-32). This appears to be a fundamentally different than designating a "subset of products" as is discussed in the present invention, where the subset of products is a designated number of the plurality of products that will be allowed to change pricing, and yet still yield an optimized profit or other goal, as recited in Claims 1, 14, 21-24.

Accordingly, the "employment of subsets and relaxation" of Joslin, as referred to by the Examiner, appears to provide a system of quick optimization through subproblems, as opposed to a system enabling feasible solutions of a subset of the products. As such, the method disclosed in Joslin cannot function as a method to "optim[ize] prices for products in the subset of products . . . wherein the optimization includes relaxation of constraints" as recited in Claims 1, 14, 21-24.

Moreover, with regard to Claims 1, 14, 21-24, the Applicants respectfully submit that Hartman is not combinable as a matter of art with Ouimet, Joslin or Delurgio. The method disclosed in Ouimet appears to be a system for further tuning by taking into account "psychological effects" (column 3, lines 1-3). The method disclosed in Joslin appears to be a system for a quick recourse allocation "optimization system" (column 5, lines 1-9). The method described in Delurgio '352 appears to include a price optimization system (column 15, lines 20-58, column 21, lines 8-26, column 22, lines 3-5). As such, Ouimet, Joslin and Delurgio appear to teach methods for computing specific output values.

In contrast, Hartman teaches away from Ouimet, Joslin and Delurgio by disclosing a method for developing "variable margin pricing of products" rather than a specific value (column 1, lines 6-10). In Hartman a "radically different approach has been taken . . . where the basic philosophy is that **retail prices only need to be close to a vague undefined target**"

(column 2, lines 56-60) (emphasis added). This system appears to be at complete odds to the methods of Ouimet, Delurgio and Joslin, which are trying to determine a concrete value for each element that will result in the optimal result. With such a fundamental difference of methodology, it is clear that the methods disclosed by Hartman, and those of Joslin, Delurgio and Ouimet, are incompatible methods and thus not combinable.

Dependent Claim 3 has also been amended to include “the computer readable code for selecting no more than N products selects products that have had a change in information state, and products of the plurality of products that have constraints enabling price movement.” Support can be found in page 136, lines 5-24, and page 137, lines 1-15 of the Specification as filed. Hence, dependent Claim 3 is allowable over the cited art.

Dependent Claim 16 has also been amended to include “the selecting no more than N products selects products that have had a change in information state, and products of the plurality of products that have constraints enabling price movement.” Support can be found in page 136, lines 5-24, and page 137, lines 1-15 of the Specification as filed. Hence, dependent Claim 16 is allowable over the cited art.

Independent Claim 22 has also been amended to include “displaying optimized prices for products in the subset of products; and setting store prices for products in the subset of products to optimized prices for products in the subset of products.” Support can be found in page 15, lines 1-3, page 18, lines 17-22, page 19, lines 10-14, page 22, lines 11-19, page 27, lines 9-11, page 101, lines 8-11 of the Specification as filed. Hence, independent Claim 22 is allowable over the cited art.

Dependent Claim 26 has been added to include “computer readable code for resolving errors of new data provided, utilizing a grid of time periods including records, comprising: computer readable code for removing duplicate records of the new data; computer readable code for removing the records for discontinued products, wherein the plurality of products includes discontinued products; computer readable code for removing the records that include obvious defects, wherein the obvious defects include negative prices, negative sale volume, negative

costs, and unusual prices, wherein the unusual prices includes a product price that is a specified standard deviations from mean price of the product of the plurality of products; computer readable code for removing the new data from closed stores, wherein the closed stores are determined by a lack of product movement at the closed store for a set time period; computer readable code for removing missing records, of the records, in the grid of time periods' first and last row; and computer readable code for generating replacement records for missing records, of the records, in the grid of time periods." Support can be found in page 18, lines 17-22, page 19, lines 10-14, page 22, lines 11-19, page 27, lines 9-11 of the Specification as filed. Hence, dependent Claim 26 is allowable over the cited art.

Dependent Claim 27 has been added to include "resolving errors of new data provided, utilizing a grid of time periods including records, comprising: removing duplicate records of the new data; removing the records for discontinued products, wherein the plurality of products includes discontinued products; removing the records that include obvious defects, wherein the obvious defects include negative prices, negative sale volume, negative costs, and unusual prices, wherein the unusual prices includes a product price that is a specified standard deviations from mean price of the product of the plurality of products; removing the new data from closed stores, wherein the closed stores are determined by a lack of product movement at the closed store for a set time period; removing missing records, of the records, in the grid of time periods' first and last row; and generating replacement records for missing records, of the records, in the grid of time periods." Support can be found in page 18, lines 17-22, page 19, lines 10-14, page 22, lines 11-19, page 27, lines 9-11 of the Specification as filed. Hence, dependent Claim 27 is allowable over the cited art.

Hence, Claims 1, 14, 21-24 are allowable over the cited art alone and in any reasonable combination. Similarly, dependent claims 3-13, 26 which are dependent upon Claim 1 are also allowable over the cited references for at least the same reasons as Claim 1. Similarly, claims 16-20 and 25, 27 which are dependant upon Claim 14 are also allowable over the cited references for at least the same reasons as Claim 14.

The Examiner has also rejected Claim 22 under 35 USC 101 because the claimed invention is directed to non-statutory subject matter stating that “the claim does not present a concrete, tangible or useful result. Claim 22 is outside the four statutory classes of invention since they are recite an electromagnetic signal.” Applicants respectfully traverse the rejection.

Independent Claim 22 has also been amended to include “**displaying optimized prices** for products in the subset of products; and **setting store prices** for products in the subset of products to optimized prices for products in the subset of products” (emphasis added). Support can be found in page 15, lines 1-3, page 101, lines 8-11, page 128, lines 4-22 and page 129, lines 1-3 of the Specification as filed.

Applicants respectfully submit that causing computation of preferred pricing meets the requirements of a Useful result, Tangible result and Concrete result. Useful result is defined by the present invention’s Utility, namely specific, substantial, and credible (MPEP 2107). The claimed result is the generation of an optimized set of prices, for a specific subset of products, utilizing a specific demand model. As such the Applicants respectfully submit that the specific prong of Useful is met. The generation of optimized prices for a business’ products will lead to the success or failure of a business. As such the Applicants respectfully submit that the substantial prong of Useful is met. The generation of optimized prices as specific and substantial is supported by the specification as filed, thereby satisfying the credibility prong of Useful. See page 2, lines 18-19, page 3, lines 1-15 and page 4, lines 15-22 of the specification as filed.

The generation of preferred prices is itself tangible. Additionally, the **displaying** of those prices and the **setting** of store prices all describe tangible, real-world results. As such the Applicants respectfully submit that the generation of optimized prices produces a Tangible result.

The generation of optimized prices with the exact same data input will infallibly result in the same generation of optimized prices. Likewise, varying data will infallibly result in a generation of varying optimized prices that are each optimal for the data provided to generate them. In such a computer implemented apparatus accuracy is assured. As such the Applicants respectfully submit that the generation of optimized prices produces a Concrete result. Thus, Claim 22 is allowable over the cited art alone and in any reasonable combination.

Application No. 10/006,608
Amdt. August 17, 2006
Reply to Office Action of March 17, 2006

In sum, Claims 1, 3-14, 16-25 remain in this application and are now believed to be allowable. Base Claim 22 has been amended and is now believed to be allowable. Dependent Claims 3, 16 have been amended and are now believed to be allowable. Dependent Claims 26, 27 have been added. Dependent Claims 3-13, 16-19, 25-27 which depend therefrom are also believed to be allowable as being dependent from their respective patentable parent Claims 1, 14 for at least the same reasons. Hence, Examiner's rejection of dependent Claims 3-13, 16-19, 25-27 are rendered moot in view of base Claims 1, 14. Applicants believe that all pending Claims 1, 3-14, 16-27 are now allowable over the cited art and are also in allowable form and respectfully request a Notice of Allowance for this application from the Examiner. The commissioner is authorized to charge any fees that may be due to our Deposit Account No. 50-2766 (Order No. DEM1P008). Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at telephone number 925-570-8198.

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